

Paragraph bridging pages 19 and 20:

--Referring to Figure 18, a drilling template instrument 50 for creating a pair of insertion holes 53a and 53b in each of the vertebrae V for receiving each of the projection 16 and 17 respectively is shown. The drilling template instrument 50 has a template 52 with a central aperture 54 therethrough and guide passages 55 and 56 for guiding a drill bit 51 of a drilling tool. Attached to the template 52 is a handle 58 which angles away from the template 52 so as not to obstruct the line of sight of the surgeon and to allow easy access to the template 52 and easy access to the guide holes 55 and 56 for the drill bit 51. Extending from the center of the bottom surface of the template 52 is a central member 59 (similar in structure and function to the central bar 35) for mating to an already implanted intervertebral spinal fusion implant 40. The central member 59 interdigitates with the depression 42 of the spinal fusion implant 40 so that the template 52 is properly oriented about the spinal fusion implant 40 and the guide holes 55 and 56 are properly oriented with respect to the vertebrae V adjacent to the spinal fusion implant 40. The alignment rod 70 serves as a guide post for the drill template instrument 50 as it fits through the central aperture 54 of the template 52 and aligns the template 52 with respect to the spinal fusion implant 40 and insures that it is coaxial. The central aperture 54 of the drilling template instrument 50 is smooth so that if it is placed over a splined alignment rod 70' the drilling template instrument 50 may be easily rotated about the splined alignment rod 70' into position such that the central member 59 is able to mate and interdigitate with the depression 44 of the spinal fusion implant 40.--

Page 21, first full paragraph:

B₂ --Referring to Figure 22, once the staple member 12 is properly placed onto the bottom flat member 84 of the driving instrument 80, the staple member 12 and the driving instrument 80 are aligned with respect to the alignment rod 70 so that the alignment rod 70 passes through the central opening 18 of the staple member 12 and is inserted into the central hollow portion 89 of the driving instrument 80. The staple member 12 and the driving instrument 80 are then lowered along the alignment rod 70 so that the sharp distal end 32 of each of the projections 16 and 17 comes into contact with the external surface of the vertebrae V and is aligned with the previously drilled insertion holes 53a and 53b.--

Page 23, second full paragraph:

B₃ --Referring to Figure 22, in the Short Method, the splined alignment rod 70' that is finely splined along its longitudinal axis is used instead of the alignment rod 70. Once the splined alignment rod 70' has been attached to the spinal fusion implant 40, the staple member 12 may be placed over the splined alignment rod 70' so that the splined alignment rod 70' passes through the aperture 18 and into the central aperture 89 of the driving instrument 80. The central aperture 89 of the driving instrument 80 is correspondingly splined to the splines of the splined alignment rod 70' so that the staple member 12 can be aligned with respect to the spinal implant 40. The alignment of the staple member 12 and the driving instrument 80 is maintained as the corresponding splines of the central aperture 89 interdigitate with the splines of the splined alignment rod 70' and prevent the rotation of the staple member 12 about the splined alignment rod 70'. The prevention of rotation about the splined alignment rod 70' is especially

important when the Short Method is used to insert the spinal fixation device 10, as no insertion holes 53a and 53b have been drilled in the vertebrae V. The staple 12 can be driven directly into the vertebrae V by the application of a high impact force to the driving instrument 80 as described above and shown in Figure 22.--

Page 24, last paragraph:

--Referring to Figure 26, a second alternative embodiment of the spinal fixation device 210 having a staple member 212 is shown with a top member 214 that is generally rectangular in shape and has an upper surface 220 with openings 222a, 222b, 222c, and 222d. The top member 214 has four projections 216, 217, 218, and 219 depending from its bottom surface at each of its corners. The projections 216-217 are the same as the projections 16 and 17 described above in the preferred embodiment. The stop member 2145 has four straight sides 228a, 228b, 228c, and 228d having upper edges 225a, 225b, 225c, and 225d, respectively, that are radiused to conform to the external curvature of the vertebrae V create a smooth surface as described above for the preferred embodiment. The driving instrument 80' shown in Figure 16B is used to insert the spinal fixation device 210.--

Page 25, first paragraph:

--Referring to Figure 27, a third alternative embodiment of the spinal fixation device 310 having a staple 312 with a top member 314 that is generally triangular is shown. The top member 314 has two projections 316 and 317 depending from the bottom surface of the top member 314 that engage the vertebrae V. Extending from the center of the bottom surface of the top member 314 is a central member 390 which is similar to the central bar 35 of the preferred embodiment of the spinal fixation device 10

in that the central member 390 interdigitates with the depression 44 of the spinal fusion implant 40. However, the central bar 390 also has an extension arm 392 that extends laterally from the top member 314 to span the diameter of an adjacent spinal fusion implant 41. The extension arm 392 interdigitates with the depression 44 of the spinal implant 41. The extension arm 392 has a central aperture 394 for receiving a screw 60b used to couple the extension arm 392 to the spinal fusion implant 41. In this manner, a single spinal fixation device 310 is capable of interdigitating with two adjacent spinal fusion implants 40 and 41 to lock and prevent the rotation and any excursion of the spinal fusion implants 40 and 41. The fixation of two spinal fusion implants 40 and 41 is possible while leaving no protruding metal, such as the top member 314, on the side of the spine where the vessels are located in close approximation to the vertebrae as is the case with the L₄ and L₅ vertebrae where the vessels are located over the left side of those vertebrae. It is appreciated that any of the securing means 65-65b, described above may be used to lock the screw 60b to the extension arm 392.--

Page 30, first full paragraph:

--The top member 714 has a hole 728 on one end and a hole 730 at its other end through which each of the projection screw members 716 and 717 respectively, may pass. The projection screw members 716 and 717 pass through the holes 728 and 730 to engage the vertebrae V. Each of the holes 728 and 730 has a concentric counter sunk recess 732 for receiving and seating the screw heads 724 and 726 of the projection screw members 716 and 717 so that the screw heads 724 and 726 are flush or below the top surface 20 of the stop member 714 once inserted into the vertebrae V.--